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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,719	06/22/2001	Nina Sergeevna Zubkova	A01058US(981	3558

22920 7590 10/01/2004

GARVEY SMITH NEHRBASS & DOODY, LLC  
THREE LAKEWAY CENTER  
3838 NORTH CAUSEWAY BLVD., SUITE 3290  
METAIRIE, LA 70002

EXAMINER

ANTHONY, JOSEPH DAVID

ART UNIT PAPER NUMBER

1714

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Notice of Allowability**

Application No.

09/786,719

Examiner

Joseph D. Anthony

Applicant(s)

ZUBKOVA ET AL.

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to preliminary amendment filed 06/02/2001.
2. ☒ The allowed claim(s) is/are 1-35 [renumbered as 7-9, 1-6, 10-20, 27, 32, 28, 29, 34, 21-24, 30-31, 33, 35, 25, 26].
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

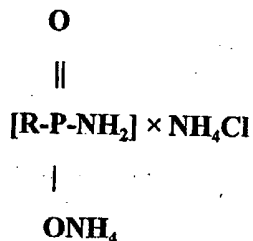
### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Brett A. North on 09/23/04.

The application has been amended as follows:

Claim 3 (Currently Amended) Process for producing a complex compound of ammonia salt of amide of alkylphosphonic acid with ammonium chloride of formula [(I),] (I)

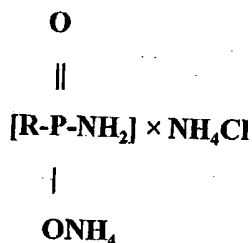


where R is the alkyl radical C-1-3

consisting of the interaction of dichloroanhydride of alkylphosphonic acid with gaseous ammonia in a medium of organic solvent at temperature 10-200C.

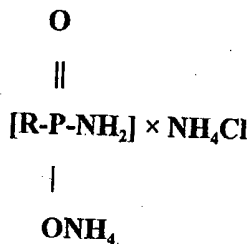
Art Unit: 1714

Claim 10 (Currently Amended) Process for producing low fire risk polymer materials by the introduction of the [CR] combustion retardant into the polymer in the course of its processing, characterised in that the [CR] combustion retardant used is a complex compound of ammonia salt of amide of alkylphosphonic acid with ammonium chloride of Formula [(I).] (I)



where R is the alkyl radical C-1-3

Claim 21 (Currently Amended) Process for producing low fire risk polymer materials by the introduction of combustion retardant into the polymer, characterised in that the combustion retardant used is a complex compound of ammonia salt of amide of alkylphosphonic acid with ammonium chloride of Formula [(I).] (I)

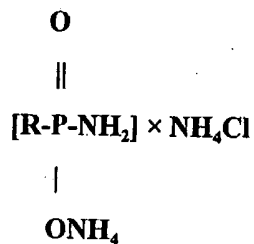


where R is the alkyl radical C-1-3

which is introduced into the polymer composition before it sets.

Art Unit: 1714

Claim 25 (Currently Amended) Process for producing low fire risk polymer materials, characterised in that a complex compound of ammonia salt of amide of alkylphosphonic acid with ammonium chloride of Formula (I)



where R is the alkyl radical C-1-3

is introduced into a polymer composition including synthetic rubber, after which it is rolled before the article is pressed.

In claims 26-28, line 1, delete the number "6" and insert therefor the number -10--.

In claim 29, line 2, delete the number "6" and insert therefor the number -10--.

2. The following is an examiner's statement of reasons for allowance: Dependent claims 26-29 were amended to correct their dependencies. Applicant's complex compounds of the ammonia salt of amide of alkylphosphonic acid with ammonium chloride of formula (I) are deemed to be both novel and unobvious over the prior-art of record. As such, since all the pending claims require the present of compounds of

formula (I), all claims are novel and unobvious over the prior-art. The closest pieces of prior-art are deemed to be as followed:

A) The authors of this invention, disclosed on page 8, lines 10-14 of the present specification, that they have previously proposed the use of the microencapsulated antipyrène T-2 as a CR for polyethylene and polypropylene (Zubkova N.S, et al., Plastmassy, 1996, No. 5, pp. 35-36). This is a technical mixture of two individual compounds - the ammonium salt of methylphosphonic acid and ammonium chloride. Such a technical mixture does not teach or suggest applicant's claimed complex of the ammonium salt of the amide of methylphosphonic acid and ammonium chloride. The authors of this invention, also state on page 8, lines 15-20 of the present specification, that: "The authors later discovered, to their surprise, that a complex compound of the ammonia salt of the amide of methylphosphonic acid with ammonium chloride provides more effective fireproofing than the technical mixture referred to above. In the absence of a theory to explain the reason for this unexpected result, it may be supposed that complex compounds are more active catalysts of the coke-formation processes which are responsible for reducing the combustibility of polymer materials."

B) Applicant cited English Language Abstract of RU Patent 2024560 discloses the production of polymer materials comprising the following components, silica, diamide of methylphosphonic acid, ammonium chloride, aliphatic polyamide or propylene as the balance. The ratio of diamide of

methylphosphonic acid and ammonium chloride being used is 1:08. Applicant's claims are deemed to be both novel and unobvious over this reference because: 1) there is no disclosure of the ammonium salt of the amide of methylphosphonic acid, and 2) the reference discloses only technical mixtures and thus does not teach or suggest applicant's claimed complex of the ammonium salt of the amide of methylphosphonic acid and ammonium chloride.

C) Applicant cited English Language Abstract of RU Patent 2099384 discloses ammonium methylphosphonamide encapsulated with a thermoplastic polymer. These said encapsulated are added to polymers to render them flameproof. Applicant's claims are deemed to be both novel and unobvious over this reference because the reference does not teach nor suggest applicant's claimed complex of the ammonium salt of the amide of methylphosphonic acid and ammonium chloride.

D) HCAPLUS 1987:68418, Document No. 106 :86418, "Inhibition Of The Combustion Of Cellulose By Phosphorus-Containing Compounds" Sultanov et al., Koksnes Kimija (6), 44-6 (Russian) 1986, CODEN: KHDRDQ. ISSN: 0201-7474. The disclosed phosphorus-containing compounds of Sultanov et al are the monoammonium salt of the amide of methylphosphonic acid. Applicant's claims are deemed to be both novel and unobvious over this reference because the reference does not teach nor suggest applicant's claimed complex of the ammonium salt of the amide of methylphosphonic acid and ammonium chloride.

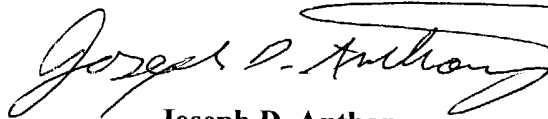
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Prior-Art Cited But Not Applied***

3. Any prior-art reference which is cited on FORM PTO-892 but not applied, is cited only to show the general state of the prior-art at the time of applicant's invention.

***Examiner Information***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. This examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 6:30 p.m. in the eastern time zone. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The centralized FAX machine number is (703) 872-9306. All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner.



**Joseph D. Anthony**  
**Primary Patent Examiner**  
**Art Unit 1714**

9/24/04